

Application No. 10/575,367
Art Unit: 3725

Amendment under 37 CFR §1.116
Attorney Docket No.: 062402

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions of claims in the application:

Listing of Claims:

1. (Currently amended): A security paper comprising at least two fibrous paper plies, wherein each of said plies is a material layer, the first ply being an external ply that includes ~~at least one~~ a first authentication element provided within a region of non-zero thickness of the first ply, and the other ply, the second ply, comprising at least one of:

- a reinforcing element substantially absent from the first ply, said reinforcing element being chosen from materials that improve the mechanical strength; and

- a second authentication element provided within an area of non-zero thickness of the second ply, wherein the first authentication element of the first ply is absent from the second ply.

2. (Previously presented): The security paper as claimed in claim 1, wherein the second ply comprises a reinforcing element, and said reinforcing element is chosen from synthetic fibers, especially polyester or polyamide fibers, natural textile fibers, especially abaca, hemp, flax, Chinook fibers, and mixtures thereof.

3. (Previously presented): The security paper as claimed in claim 2, wherein said polyester fibers are polyethylene terephthalate fibers, in particular they are present in an amount of between 10 and 20 parts by dry weight per 100 parts of the other fibers of said second ply.

4. (Previously presented): The security paper as claimed in claim 1, wherein the second ply comprises a second authentication element, and said second authentication element of said first ply, and where appropriate that of said second ply, can be detected optically.

5. (Previously presented): The security paper as claimed in claim 4, wherein at least one of said first and second authentication elements is chosen from watermarks, iridescent particles, luminescent, in particular fluorescent or phosphorescent, fibers or particles, colored or thermochromic fibers or particles, in particular said particles are flakes.

6. (Previously presented): The security paper as claimed in claim 1, wherein at least one of said first and second authentication elements reacts to certain stimulations, giving a specific signal that can be detected using a suitable apparatus.

7. (Previously presented): The security paper as claimed in claim 6, wherein said reactive element is chosen from substances that react to electromagnetic fields.

8. (Previously presented): The security paper as claimed in claim 1, wherein said external first ply includes a watermark as said first authentication element and has a thickness substantially greater than that of said second ply or of the other plies.

9. (Previously presented): The security paper as claimed in claim 1, wherein said second ply comprises a reinforcing element, and said reinforcing element also has an authentication function.

10. (Previously presented): The security paper as claimed in claim 9, wherein said reinforcing element constitutes said second authentication element of said second ply.

11. (Previously presented): The security paper as claimed in claim 1, wherein said second ply comprises a reinforcing element and said security paper has a tear index of 10 mN.m²/g or higher.

12. (Previously presented): The security paper as claimed in claim 1, wherein the plies are based on cotton fibers.

13. (Previously presented): The security paper as claimed in claim 1, which comprises three fibrous plies, said external first ply having an authentication element, said second ply being central and having said reinforcing element, and the third ply being another external ply having an authentication element that may be different from that of said first ply.

14. (Previously presented): The security paper as claimed in claim 1, which is a banknote paper.

15. (Previously presented): A process for manufacturing a security paper as claimed in claim 1, wherein said plies are assembled wet.

16. (Previously presented): The process for manufacturing a security paper as claimed in claim 15, wherein said external first ply includes a watermark and is formed on a cylinder-mold machine that includes a watermark wire.

17. (Previously presented): The security paper as claimed in claim 7, wherein said reactive element is chosen from substances that react to electromagnetic fields of the microwave type.

18. (Previously presented): The security paper as claimed in claim 8, wherein said external first ply has a thickness about 1.5 to 2 times greater than that of said second ply or of the other plies.

19. (Previously presented): The security paper as claimed in claim 1, wherein the second ply, comprises a reinforcing element substantially absent from the first ply, said reinforcing element being chosen from materials that improve the mechanical strength.

20. (Previously presented): The security paper as claimed in claim 1, wherein the second ply comprises a second authentication element provided within an area of non-zero thickness of the second ply, wherein the first authentication element of the first ply is absent from the second ply.

21. (Previously presented): A security paper according to claim 1, which comprises a watermark as first authentication element in the first ply and a reinforcing element in the second ply.

22. (Previously presented): A security paper comprising at least three fibrous paper plies, the first ply being an external ply that includes at least one first authentication element, the second ply being central and having a reinforcing element, and the third ply being another external ply and having a second authentication element, wherein the first authentication element of the first ply is absent from the third ply.